

IN THE UNITED STATES DESIGNATED/ELECTED OFFICE

International Application No. : PCT/EP2003/014537  
International Filing Date : December 18, 2003  
Priority Date(s) Claimed : January 24, 2003  
Applicant(s) (DO/EO/US) : Louise Diane FARRAND et al.

Title: IONIC MESOGENIC COMPOUNDS

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§ 1.56, 1.97 and 1.98

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This information disclosure statement is made in accordance with 37 C.F.R. §§ 1.56, 1.97 and 1.98 as follows:

Timing and Fees

Under 37 C.F.R. § 1.97(b), no fee or statement is required for filing this information disclosure statement is filed:

within three months of the filing date of a national application other than a CPA under § 1.53(d);

within three months of the actual filing date of the national phase of a PCT application; OR

before the mailing of a first substantive office action (including after filing of an RCE).

Under 37 C.F.R. § 1.97(c), this information disclosure statement is filed after the periods specified in 37 C.F.R. § 1.97(b), but before the mailing date of:

a final rejection under 37 C.F.R. 1.113;  
termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P. § 609(B)(2); OR  
a notice of allowance under 37 C.F.R. § 1.311; and

is accompanied by:

- the statement as specified in 37 C.F.R. § 1.97(e) set out below; OR
- a check covering the fee of \$180.00 under 37 C.F.R. § 1.17(p).

Under 37 C.F.R. § 1.97(d), this information disclosure statement is filed after the mailing date of the following actions which have not been withdrawn:

- a final action under 37 C.F.R. § 1.113;
- termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P § 609(B)(2);
- OR a notice of allowance under 37 C.F.R. § 1.311;

AND is filed on or before payment of the issue fee; AND is accompanied by:

the statement as specified in 37 C.F.R. § 1.97(e) as set forth below, and the fee of \$180.00 under 37 C.F.R. § 1.17(p).

Statements Under 37 C.F.R. 1.97(e)

- Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application having a mailing date not more than three months prior to the filing date of this information disclosure statement; or
- No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and to the knowledge of the undersigned attorney after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing date of the information disclosure statement.

Cited Materials

- Copies of materials listed but not attached were cited in benefit (35 U.S.C. § 120) ancestor application Serial No. \_\_\_\_\_, on Form 892 by the Examiner and/or Form 1449 by the applicant; see 37 C.F.R. § 1.98(d).
- Copies of materials listed but not attached were cited in an international search report dated May 21, 2004.
- Not required by 37 CFR § 1.98.
- Copies of the materials listed are attached (except for the foregoing).

Non-English Language References

An English-language search report or equivalent paper from a foreign patent office is provided indicating the relevance of the cited reference(s).

A foreign-language search report from a foreign patent office is provided, and pertinent parts are translated substantively below:

X = document of particular relevance when it is taken alone  
Y = document of particular relevance when it is combined with another such document  
A = document defining the general state of the art  
O = non-written disclosure  
P = intercalated document  
T = document cited to understand the theory or principle underlying the invention  
E = patent document which has the benefit of a date earlier than the filing date and which was published only on or after this filing date  
D = cited in the application  
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& = publication of member of same patent family

Translation of other relevant information on foreign search report

[insert necessary translation here]

Other Information

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Please charge to Deposit Account No. 13-3402 \$\_\_\_\_\_ for the fee identified above.

The Commissioner is hereby authorized to charge or credit any overpayment to Deposit Account #13-3402, two copies of this paper are attached for this purpose.

Respectfully submitted,



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Attorney Docket No.: MERCK-3050

Date: July 25, 2005

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|--------------------------|-----------------------------|
| Application Number       | PCT/EP2003/014537           |
| Filing Date              | December 18, 2003           |
| First Named Inventor     | Louise Diane FARRAND et al. |
| Group Art Unit           | Unassigned                  |
| Examiner Name            | Unassigned                  |
| Attorney Docket Number   | MERCK-3050                  |

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

| FOREIGN PATENT DOCUMENTS |                       |                         |                     |                                   |   |  |   |
|--------------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document |                     |                                   | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|                          |                       | Office <sup>3</sup>     | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |   |  |   |
|                          | 5                     | EP                      | 1116769             |                                   | Fuji Photo Film Co Ltd                          | July 18, 2001                                    |   |
|                          | 6                     | WO                      | 9216519             |                                   | Secr Defence Brit                               | October 1, 1992                                  |   |
|                          | 7                     | EP                      | 1033731             |                                   | Fuji Photo Film Co. Ltd                         | September 6, 2000                                |   |
|                          | 8                     | WO                      | 8702693             |                                   | Univ Sheffield                                  | May 7, 1987                                      |   |
|                          |                       |                         |                     |                                   |   |  |   |
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| Examiner<br>Signature |  | Date<br>Considered |  |
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached. Number refers to English language corresponding family member.

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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b> |   |    |   | Application Number       | PCT /EP2003/014537          |
| (use as many sheets as necessary)                        |   |    |   | Filing Date              | July 25, 2005               |
| Sheet  | 2 | of | 3 | First Named Inventor     | Louise Diane FARRAND et al. |
|  |   |    |   | Group Art Unit           | Unassigned                  |
|  |   |    |   | Examiner Name            | Unassigned                  |
|  |   |    |   | Attorney Docket Number   | MERCK-3050                  |

| <b>NON PATENT LITERATURE DOCUMENTS</b> |                       |   |  |  |                |
|--|-----------------------|---|--|--|----------------|
| Examiner Initials *                    | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.   |  |  |                |
|  | 9                     | YUICHIRO HARAMOTO ET AL: "NEW PYRIDINIUM TYPE IONIC LIQUID CRYSTAL COMPOUNDS WITH A 1,3-DIOXANE RING IN THE PRINCIPAL STRUCTURE" LIQUID CRYSTALS, TAYLOR AND FRANCIS LTD, LONDON, GB, VOL. 21, NO. 6, 1 DECEMBER 1996, PAGES 923-925, XP000639781.  |  |  | T <sup>2</sup> |
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|  | 11                    | DATABASE INSPEC "ONLINE! INSTITUTE OF ELECTRICAL ENGINEERS, STEVENAGE, GB; HARAMOTO Y ET AL: "LIQUID CRYSTAL PROPERTIES OF NEW IONIC LIQUID CRYSTAL COMPOUNDS HAVING A 1,3-DIOXANE RING" DATABASE ACCESSION NO. 7266074 XP002277948 ABSTRACT & LIQUID CRYSTALS, JAN. 2002, TAYLOR & FRANCIS, UK, VOL. 29, NO. 1, PAGES 87-90.   |  |  |                |
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| Examiner Name          | Unassigned                  |
| Attorney Docket Number | MERCK-3050                  |

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|  | 17 | HARAMOTO Y ET AL: "NEW 1,3-DITHIANE TYPE IONIC LIQUID CRYSTAL COMPOUNDS" LIQUID CRYSTALS, TAYLOR AND FRANCIS LTD, LONDON, GB, VOL. 24, NO. 6, 1 JUNE 1998 PAGES 877-880, XP000773009.  |  |
|  | 18 | ARTZNER F ET AL: "EVIDENCE OF NEMATIC, HEXAGONAL AND RECTANGULAR COMUMNAR PHASES IN THERMOTROPIC IONIC LIQUID CRYSTALS" LIQUID CRYSTALS, TAYLOR AND FRANCIS LTD, LONDON, GB, VOL. 23, NO. 1, 1 JULY 1997 PAGES 27-33, XP000701478  |  |
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|  | 20 | DATABASE INSPEC "ONLINE! INSTITUTE OF ELECTRICAL ENGINEERS, STEVENAGE, GB: HARISTOY D ET AL: "NOVEL IONIC LIQUID-CRYSTALLINE COMPOUNDS BEARING OXADIAZOLE AND PYRIDINIUM MOIETIES AS PROSPECTIVE MATERIALS FOR OPTOELECTRONIC APPLICATIONS" DATABASE ACCESSION NO. 7702539 XP002277947 ABSTRACT & CHEMISTRY OF MATERIALS, 20 MAY 2003, AMERICAN CHEM SOC, USA, VOL. 15, NO. 10, PAGES 2079-2083. |  |
|  | 21 | PATENT ABSTRACTS OF JAPAN VOL. 1998, NO. 06, 30 APRIL 1998 - & JP 10 053585 A (NIPPON CHEM IND CO LTD; HARAMOTO YUICHIRO), 24 FEBRUARY 1998.   |  |
|  | 22 | PATENT ABSTRACTS OF JAPAN VOL. 1996, NO. 10, 31 OCTOBER 1996 -& JP 08 157456 A (DAINIPPON PRINTING CO LTD), 18 JUNE 1996 ABSTRACT.   |  |
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